

*sullivan*  
Case (m.)

A

## NEW TREATMENT

FOR

## SPINE DISEASES.

By MEIGS CASE, M. D., Oneonta, N. Y.

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# MEDICAL EXAMINATION FOR Dr. Case's Spinal Apparatus.

(PATENTED JANUARY 1st., 1878.)

Name of Patient, .....  
Town of ..... County of ..... State of .....  
Name of Parent, or Guardian, .....  
Age, ..... Sex, ..... Height, ..... inches. Distance in inches  
from seat, (sitting), to top of head, ..... Waist measure, ..... inches.  
Weight, ..... lbs. Time existed, ..... Supposed  
cause, .....

## DESCRIPTION OF DISABILITY.

If Curvature  
State Whether

{ Rotary Lateral, .....  
Pott's Disease, .....  
Lateral, Right or Left, .....  
Double Lateral, .....  
Anterior, ..... } A descriptive draw-  
ing is frequently  
very useful.

No. of Vertebrae involved : Cervical, Dorsal or Lumbar, .....  
Right or Left Handed, ..... Extent of tenderness or Spinal irritation,  
.....  
Respiration per minute, ..... Rate of pulse, ..... Relative condition of  
Hips, ..... Shoulders, ..... Is shortening apparent in  
either leg, ..... Is the patient subject to Sick headache, Sleeplessness, "Side-  
ache," or an indefinable sensation of discomfort or pain in the curvature, increased  
by exercise, ..... To what extent has patient Atrophy, Emaciation, Reflex  
Neuralgia, Sciatica, or Paralysis, .....  
How much exercise is daily taken, .....  
No. .....  
Date, ..... 18.....

Examining Physician.

Town of ..... County of ..... State of .....

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to physicians in any part of the country.

Address,

**DR. MEIGS CASE,**  
Oneonta, Otsego Co., N. Y.

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# NEW TREATMENT

FOR

## SPINE DISEASES.

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BY MEIGS CASE, M. D., - ONEONTA, N. Y.

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The attention of the Profession has been directed for a few years past to a large class of neglected unfortunates, whose appeal to commiseration, is emphasized by their distressing and hapless condition and great numbers.

The institutions everywhere provided for the relief of invalidism in other forms, suggest a regret, that adequate provision has not been made for ameliorating the unspeakable wretchedness of patients afflicted with disease of the foundation frame-work of the body.

The dereliction of the profession in spine disease is shown by neglect of suitable curative treatment in earlier stages, and a tacit deference to the dicta of the instrument maker in the later, who, true to the instincts of a handicraft, has reproduced the time honored appliances, the steel crutches and metallic waist belt, springs, levers, pressure pads, and lacing, all restrictive of respiration and circulation, which have been used without material change for half a century.

The most casual examination of any of these cases ought to satisfy the physician, that the attempt to correct the position of the spine by axillary crutches, can only produce increased deformity,

and can never have originated with an anatomist. Attachments to the movable muscles of the shoulders, and appliances for pushing the spine into line by leverage on healthy parts cannot relieve the intervertebral cushion, the tendinous attachments, or the bodies of the vertebrae themselves from the injurious pressure of the superincubent weight by which alone cure, at any stage, is rendered possible. They are indeed liable to multiply the curves in persons already predisposed. Examination of the ordinary effects of curvature, on the system generally, shows arrested growth, atrophy, a peculiar sharpness of visage, coldness of the extremities, defective circulation and respiration, and other signs of impairment of function by pressure and limitation of the normal movements of the central organs of the thorax.

Death, when it occurs, is uniformly marked by cyanosis in its mode. It would therefore appear, that any treatment that operates by further restriction and diminution of the muscular movements of the chest, and the vital organs therein contained, can only be regarded as highly injurious and reprehensible.

The numerous accidents reported from more recent trials of absolutely immovable splints, such as paralysis of the lower limbs following the application of a gypsum belt, or sudden death when patients were believed by the medical attendant to be "doing well," in papier mache or plaster, will enable others to decide whether the objections above recited, apply to them equally, or in a still greater degree.

It is proven, in numerous instances, that the bands are liable to become unendurably tight, and without premonition a fatal result is initiated which has not been prevented by the most prompt removal of the constriction.

If we add to the above, the ordinary objections growing out of the character of the substance employed, the difficulty of adding weight to invalids already over-weighted, and the alarming fright, its application causes to most young children, we have valid reasons for the discontinuance of a practice, founded on a false theory of essential fracture; and undeniably unnatural, inefficient, and dangerous. Believing that suspension at will, possesses advantages over efforts to harvest mere fractions of the correction obtainable by its constant use, with immobile applications, destructive to normal action, of the organs and muscles of the chest, I have devoted considerable time to the production of a treatment

free from the objections above enumerated, applicable, to all forms and stages of curvature, and so easily managed by the patients themselves as to commend it to general use. An apparatus, employing rigid suspension which I first saw in Philadelphia in 1851, on a patient of the celebrated Dr. Mitchell, though correct in theory, and exhibiting excellent results, was unendurable for but a few minutes at a time. Having frequently demonstrated its value, in my own practice since 1860, and improved it by the substitution of elastic suspension, and the addition of wheels for locomotion, I now present, after careful trials on cases representing every form of curvature, a complete apparatus which will not disappoint any reasonable expectations. It consists of a four wheeled machine with two upright spars and crossbar, from which depends a powerful steel spring, to which the chin and occiput are attached, by a suitable head-stall and whiffletree. The height is regulated by a screw, and can be raised, as tolerance is manifested in its use, and height increases.

In dorsal curvature we add a corset or waist suspension, so arranged, by thrusting the arms through large wood rings, as to prevent any lifting of the shoulders, or limitation of their movements in any direction.

The patient can turn around, and go backwards or forwards at will, and an agreeable change of position is accomplished, by an adjustable seat. The enforced sitting posture, practiced ordinarily by patients handicapped by the usual appliances, becomes doubtless a factor in perpetuating the disease.

The failure to take needful exercise, effectually debars recovery by its injurious influence on the general health. In my apparatus, action, in the suspension, is indispensable to its successful and continuous use.

In addition a double crank motion is provided for developing the chest, and affording exercise to the arms, in cases where disuse or paralysis of either side is observed. By attaching a pedal this can be used to exercise the lower extremities or, vice versa, when atrophy or paralysis is present.

In this manner, lifting the weight, placing the spine in a natural position, resting overstrained tendons, improving circulation in the spinal cord, we enforce muscular growth by constant activity.

A manifest improvement in the respiration has been attributed in some cases, to diminished pressure on the pneumogastric out-

lets. Disappearance of headaches, sciatica and paralysis from its use, indicates manifestly their reflex origin in certain cases, and benefit derived from diminished pressure on the spinal cord, obtained by thus increasing the area of its bony canal. In this suspensory gymnasium, the most delicate patients are enabled to obtain without injury or appreciable restraint, all the benefits of muscular exertion in conformity with every well known maxim of health, and without the demoralizing influence on mind and body of appliances fastened to the person. The cripple becomes a gymnast. I subjoin a few illustrative cases:

CASE I.

Dorsal Potts disease, of four years standing. J. B., aged six years, Albany, N. Y., applied July 10th, 1877, with an angular posterior projection involving the upper dorsal vertebra, has suffered from the disease since he was two years of age, but has failed greatly during the past year, rarely leaving his couch, walks with his hands on his knees, is sleepless, and peevish, emaciated and cyanotic to the last degree.

He was placed in the apparatus and at once began an out-door life. He was not again seen until the 14th of August; at this time he had wholly regained his general health the deformity was much lessened, his weight and muscle perceptibly improved and his height increased by three inches. He still continues the use of the apparatus in which he spends most of his time, the curvature is gradually disappearing, general health remains perfect, and he may be seen daily "riding down hill" in suspension, which is accomplished by starting the machine on a declivity throwing his entire weight on the chin and occiput by lifting his legs and rapidly whirling round and round. He walks and runs continually and spends the entire day in the apparatus with an occasional respite.

CASE II.

Rotary lateral curvature of eleven years standing. N. P. aged sixteen years, Worcester, N. Y. This was a case of extraordinary deformity involving the greater part of the spine, in which the usual steel crutch and pressure apparatus had been carefully but unsuccessfully tried and finally abandoned by reason of its dis-

comfort, his pulse was rapid, respiration hurried, and arms atrophied, the shoulder-blades over-lapped and the right shoulder rounded in the manner usual in such cases.

He suffered greatly from sick headaches and a constant indefinable sensation of discomfort in the spine which was greatly increased by exercise. His head and hips were thrown out of line, one leg was considerably longer than the other and his gait one-sided.

He was placed in the suspension with a passive motion apparatus attached, and continued its use five months, a days work consisting usually of five to eight hours. At the expiration of this period, during which he had no headache and improved in every way in general health, he was found to have gained permanently four inches in height and was able to endure ordinary exercise without notably increasing the action of the heart or lungs. He was also erect and walked naturally. His appetite notably increased and a corresponding improvement in his weight was observed. He now, at the expiration of more than a year, continues the daily use of the gymnasium, and reports a regular improvement in the curvature.

#### CASE III.

Angular curvature at the cervico-dorsal junction—traumatism—paralysis. Recovery. G. B., aged five years, first seen in February, 1874. He was lying on a lounge with a countenance expressive of great physical suffering. A curvature was seen at the point above named below which complete anaesthesia and paralysis had existed for nearly a year. Two years before he was thrown backward from a high chair and received a blow on the seventh cervical vertebra, which was followed by a severe illness and ultimate partial recovery.

He soon began to support the weight of the chin on the hand and became incapable of managing his head. Gradually this increased until complete paralysis of all points below that of injury supervened. Recognizing that the gradual production of paralysis in this case must have occurred by mechanical pressure, I advised suspension as the only practicable suggestion for treatment, but as this cannot be endured without motion, provided a novel addition to the usual apparatus, which overcame this difficulty and

permitted its use. It consisted of a box containing a combination of levers and a spring somewhat resembling the interior arrangement of a scale to which a seat was secured. This machine communicated a churning motion to the seat which took the place of walking exercise as furnished by the ordinary apparatus.

Thus the indispensable conditions, of suspension and motion were furnished and followed by the most gratifying improvement in the general health of the little patient. The back of the seat with spring suspension attached was first let down and secured. The boy was then placed horizontally on the plane and his head hooked on to the headstall and spring. He was thus raised without pain to a sitting posture the feet were kept in motion by the action of the seat, hypodermic injections of 1-30 gr. of strychnine were used two or three times per week. Slight improvement in the position of the dropped wrist was soon observed with increasing warmth and circulation, which was followed at the end of three months by complete restoration of the hands.

The treatment was continued without material change until the expiration of five months from its beginning, when I was summoned in haste by the mother, to express my opinion in regard to certain alarming movements of the legs. My gratification and astonishment was complete, when I found that my little patient had instantaneously recovered the use of his legs and was moving them in a paroxysm of joyful emotion.

He was at once placed in the walking machine and began going about the house and out of doors, and at the expiration of a year had fully recovered. An abscess in the neck near the site of the injury gave rise to some serious apprehensions at one time, but with this exception his improvement was continuous from the day he was placed under my charge.

He has now been considered well for over three years, goes to school, plays as hard as any child, and his history altogether forms the most remarkable recovery, which has fallen under my observation.

#### CASE IV.

Incomplete paralysis. Recovery. C. B. Schenevus, N. Y., aged 9 years was presented July 20th., 1876, with general incomplete paralysis, which was exhibited by incoördinate move-

ments, aphonia and ptosis, which had existed for about nine weeks, following recovery from well marked cerebro-spinal disease.

He was brought from his home on a pillow and was unable to sit up or sustain the weight of the head. He was at once, but not without difficulty placed in the walking apparatus, but was unable to use it, but a few minutes at a time. Improvement followed and at the end of the first week, he remained in it the greater portion of the time and in three weeks walked several miles a day. At the end of eleven weeks all trace of the disability had disappeared and the apparatus was discontinued.

#### CASE V.

R. D., age 55. Had suffered from double lateral curvature, for 25 years. She exhibited a loss of height of about five inches, and suffered from general atrophy resembling marasmus, and was subject to constant dyspnœa. Four weeks use of the apparatus, increased her height three inches, enabled her to rest, and wholly relieved the sense of impending suffocation.

#### CASE VI.

G. P., aged 23 years. Was thrown from a carriage three years previously, and received the blow on the upper dorsal vertebra. An anterior curvature resulted, involving the four upper dorsal vertebræ, paralysis of the extremities existed from the first, but gradual use of the arms returned at the end of the first year. Use of the apparatus enabled him to stand or move about with comparative ease, increased warmth of the limbs and unmistakable signs of improved circulation, were noticed at its first application. A gradual improvement is now taking place in all respects, which promises ultimate recovery.

#### CASE VII.

Anterior curvature and spinal irritation. N. H., aged 29 years. This lady was thrown backwards from a horse nine years previously. Since then she has spent the greater portion of her time in bed, complains of a "splitting pain" in the back, which is aggravated by any attempt to exercise.

A slight strut was the principal mark of anterior lumbar curvature, but I regarded the case clearly as one of spinal irritation, a difficulty of which very little is said, or, understood. She had fairly taken her place among the "unaccountables," who become bed-ridden after exhausting the pharmacopœa. Nine years' trial of all the pathies had not improved or materially changed her situation. She was unable to *endure*. A short carriage ride would send her to bed for a week, suffering exquisite torture in the spine. Blisters were her only relief, and this was temporary. The whole spine was abnormally sensitive to percussion.

She was placed in suspension by chin and waist, found complete rest and relief from pain and was immediately able to keep about an entire day, by taking an occasional rest in the apparatus. After three months use she is substantially improved, walks and rides without any pain or weariness, which is not relieved by the machine, which she continually uses and denominates her "haven of rest."

In conclusion I will add that the above are selected from a list of about seventy-five cases, mostly ordinary curvatures, in which the most favorable results have been obtained.

Its use in acute injury is also unquestionably indicated, as a rational treatment of the not unfrequent cases of traumatism, the broken necks and backs, that are apt to linger a few weeks, and die from intra-spinous pressure.

I have found the treatment useful in many chronic cases of incurable curvature, obtaining increase of height and a degree of comfort otherwise unattainable.

Elastic suspension in combination with exercise affords the true solution of the problem of "rest for the spine," in patients suffering from curvature, accident, or the injurious effects of mechanical pressure on the medulla spinalis.



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### REFERENCES:

John Swineburn, M. D., Geo. T. Stevens, M. D., J. L. Babcock, M. D., W. H. Baily, M. D., and Wm. Geoghan, M. D., Albany, N. Y.

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